antibiotics in the assumption that the cause is eustachian tube obstruction and middle ear air pressure changes.

Fortunately, many patients recover in spite of this treatment. Those who do not are statistically likely to finally have their hearing tested about one week later, after the most favorable therapeutic interval has already passed. Causes for these losses and their treatments vary, but one factor common in all studies is an impressive correlation between time of diagnosis and prognosis. For example, those discovered within two days of onset have a 50-50 chance for complete recovery. If discovery is delayed until six weeks, chances for even a modest recovery are less than 5 percent.

There are over 15 proposed causes for sudden hearing loss reported, some treatable, some not. The most common causes are considered to be viral infections, intracochlear membrane breaks, vascular spasm, several blood disorders, autoimmune disease, meningitis and syphilis. Treatment depends upon most likely cause, but until this is established by laboratory tests, which should include a cerebrospinal fluid examination in most cases, additional trauma to the ear should be avoided by restricting physical activity for the first few days after onset and by not attempting to forcibly inflate the middle ear.

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Vertigo in "Whiplash Injuries"

So-called "whiplash injuries" cause many symptoms which seem difficult to explain on the basis of the trauma involved. A large number of these unfortunate patients complain of "dizziness" and, before the availability of electronystagmography, were thought to be "crocks" in search of a "cabbage poultice." By using electronystagmography to search for spontaneous and positional nystagmus, however, at least half of these patients complaining of dizziness can be demonstrated to have pathologic change in the balance system. The pathologic lesion may be in the peripheral labyrinth, eighth nerve, cerebellopontine angle, brain stem, cervical musculature, vertebral arteries, or the intervertebral discs, or any combination thereof. Any patient complaining of "dizziness" after a "whiplash" injury should be subjected to a complete evaluation of his balance system.

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Posterior Sinus Approach for Nosebleeds

Nasal bleeding may be so profuse and persistent that it taxes both the patient's and the physician's endurance and may endanger the patient's life. The most severe bleeding usually occurs in the posterior nasal area from branches of the internal maxillary artery. Posterior and anterior nasal packing has been the classic treatment of postnasal bleeding and is successful in at least 80 percent of cases. The maxillary sinus approach for ligation of the internal maxillary artery is usually successful in controlling the packing failures.

The antrum is entered similar to a Caldwell-Luc operation under local or general anesthesia, depending on the condition of the patient. The operating microscope permits excellent visualization for removal of the posterior sinus wall and dissection of the internal maxillary artery in the pterygomaxillary space. The internal maxillary artery and all its branches are ligated with neurosurgical clips. Nasal packing can usually be removed immediately.

The indications for this procedure are as follows: (1) Any patient who has required repeated packing for epistaxis; (2) any patient who rebleeds upon removal of the pack; or (3) where the bleeding is not controlled by a well-inserted

anterior and posterior pack. Some otolaryngologists now advocate internal maxillary artery ligation as the initial procedure for posterior epistaxis.

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Cryosurgery in Otolaryngology

Cryosurgery is described as a mode of applying cold as a therapeutic agent. Cold compresses as a mode of therapy were used back as early as 2500 B.C. The use of modern-day cryosurgery was begun in 1961 when Cooper and Lee described the cryogenic system attaining temperatures as low as −190 degrees centigrade. At this time, most of the cryosurgery was done in the neurosurgical field, but with the new versatility of the cryosurgical methods, other fields of surgery have turned to this mode of therapy. The cryobiology of this method is based primarily on the vascular flow within the tissue involved as well as its rate of crystalization. The physical chemical factors underlying the cell injury and freezing have been widely investigated as well as the immunological properties of freezing. Use of cryosurgery is primarily indicated in diseases of deficient blood clotting where open surgical procedures might be a hazard. Investigative work in this field is continually in progress. More recently, it has been found that by decreasing the vascularity within the involved tissue, as with epinephrine compounds, the extent of tissue destruction can be decidedly lessened, thus extending the usefulness of the modality.

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Hearing Aids and the Pre-School Child

The acquisition of oral speech and language by the hearing handicapped youngster is dependent upon his receiving auditory input within the first three years of life.

Techniques for selection of appropriate hearing aids for children have advanced considerably in the past several years. A hearing loss may be diagnosed, the degree of loss estimated and the approximate audiometric slope or curve may be charted for an infant as young as three months of age. An experienced audiologist is able to use specification data and select a trial aid on the basis of frequency and intensity response curves, distortion and output information, durability and compactness. Hearing response to voice, warble tones, and taped sound stimuli may be compared unaided and aided. It is extremely important after the aid is issued that the parents consult periodically with the audiologist. Auditory training procedures are outlined, techniques of language stimulation are suggested, the mechanics and proper care of the instrument is described. This consistent follow-up with the parents, teachers, hearing therapist and child is usually a guarantee that the child will achieve maximum benefits from amplification. It is now agreed throughout the otologic-audiologic profession that this early awareness of sound environment and the integration of auditory with visual communication is essential to the rehabilitation of hearing handicapped children.

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